

MINUTES FROM THE EPA SCIENCE ADVISORY BOARD
Environmental Economics Advisory Committee Meeting
June 13, 2002

PURPOSE: The Environmental Economics Advisory Committee (EEAC) of the EPA Science Advisory Board (SAB) met on June 13, 2002 to review the Environmental Protection Agency's Affordability Criteria for making decisions on variances from compliance technologies for small drinking water systems. Additionally, members were updated on the Agency progress on EPA's water quality trading policy. Attachment A is the Federal Register notice announcing the meeting (FR Vol. 67, No. 81, Page 20765-67, April 26, 2002). An agenda is included as Attachment B.

LOCATION: The meeting was held at the Holiday Inn Hotel and Suites at 625 First Street, in Alexandria, Virginia.

PARTICIPANTS: The following participated in this meeting: Drs. Robert Stavins, Dallas Burtraw, Catherine Kling, Lawrence Goulder, Gloria Helfand, Michael Hanemann, Richard Norgaard, Stephen Polasky, and Hilary Sigman. A committee roster is included as Attachment C and a set of biographical sketches is included as Attachment D. EPA Staff and persons from the public who participated in or observed the meeting are indicated on the sign-in sheets (Attachment E).

MEETING SUMMARY: A summary of the Committee's activities follows.

1. CONVENING THE MEETING, LOGISTICS, AND ETHICS CONSIDERATIONS

Dr. Stavins convened the meeting at 9:10 am and welcomed the Agency representatives and the public. He gave a short overview of the day's agenda. Dr. Stavins introduced Dr. Vanessa Vu to the members and observers. Dr. Vu is the new Director of the Office of the EPA Science Advisory Board (SAB). Dr. Vu welcomed the committee and gave some introductory statements about her background and the SAB. She extended her thanks to the members of the Committee and the public for taking their time to attend and participate in this meeting.

Dr. Stavins then introduced Mr. Thomas Miller, Designated Federal Officer (DFO) for the meeting, who discussed the logistical information and ethics considerations for the meeting.

Mr. Miller noted the following about the potential for Conflict of Interest and Ethics and issues concerning the independence of the EEAC. His statement mentioned that:

- a. The primary purpose of the meeting is to conduct a review of EPA's method for evaluating small system national level affordability that is required by the Safe Drinking Water Act. Secondly, EPA updated the EEAC on the status of its Water Quality Trading Policy.

b. The Board determined that the EEAC, an unsupplemented SAB Standing Committee was the appropriate panel to review the economic aspects of this issue because of their diverse make up and because EPA will be using two additional groups to provide broader advice on the affordability criteria methodology and its use.

c. The meeting does involve deliberation, the outcome of which, is intended to provide advice to the EPA Administrator.

d. As the Designated Federal Officer for this meeting, Mr. Miller worked with the SAB Director, EPA ethics counsel, and the panelists to ensure that all Conflict of Interest and ethics regulations have been satisfied. Each participant filed a standard government ethics report (i.e., confidential financial disclosure form). Mr. Miller, along with the SAB Deputy Ethics Officer, and in consultation with the office of general counsel, reviewed the report to ensure that all ethics requirements were met.

e. For this specific meeting, the criteria for conflict of interest and appearance issues are not met. Therefore waivers were not a consideration for any participant.

f. Notwithstanding the absence of COI and Appearance issues, the members voluntarily provided biographical sketches to indicate their affiliations, expertise, experience, and information on their funding sources. This information is available both on the SAB website and in hard copy at the meeting for distribution to persons who wish to know more about the panelists.

Mr. Miller then asked Dr. Stavins to implement the day's agenda.

2. EPA WATER QUALITY TRADING POLICY

Dr. Stavins introduced Dr. Mahesh Podar of the Office of Water who conducted the briefing on EPA's proposed Water Quality Trading Policy, for the EPA Office of Water. Dr. Podar began his presentation by making a personal note on the improvements in the health of the AA for the Office of Water, Mr. Tracy Mehan. Mr. Mehan first introduced this policy to the Committee during his welcome to the EEAC at its November 30, 2001 meeting.

Dr. Podar stated that the new policy updates a 1996 framework for watershed-based trading and builds on lessons learned since that time. The intention of the new policy is to have flexible, effective, and efficient approaches to achieving cleaner water. The new proposed policy was released for public comment on May 15, 2002 and the Agency hopes to have a final policy during the summer of 2002.

The objective of the proposed policy is to offer support for trading, identify features of acceptable trading programs, and identify potentially workable approaches. A key issue in the policy is that generally nutrients and sediments are open for trading, with other pollutants to be included if there is a net reduction and with extra controls. Trading situations suggested as appropriate include unimpaired waters, pre-TMDL situations in impaired waters, and areas for

implementation of TMDLs. Accountability is to be achieved by keeping NPDES permittees as the responsible entities for permit limits. Public participation is considered to be part of the accountability process and is essential in implementing a trading program. Transparency is also essential as it shows the public all the specifics involved in the process.

Comments from members included:

- a. Cross pollutant monitoring, especially at remote locations, will be important because of the possibility of controlling loadings locally but increasing them at remote locations. Without a regulatory requirement that requires non-point sources to clean up, there will be no market established.
- b. Public involvement is one of the factors that increases transaction costs of trades. It will be necessary to determine what size of trades will be permitted without the need for public overview.
- c. Does information showing the results of water trading on environmental effects exist? Dr. Podar offered to share a report from the World Resources Institute (2000) with the committee. The report is entitled *Fertile Ground: Nutrient Trading's Potential to Cost-Effectively Improve Water Quality*.
- d. In response to a question about how EPA would know what people were doing in reality, Dr. Podar stated that EPA hopes to make use of USDA extension agents' farmers experience to obtain the information.
- e. Actual on the ground water quality monitoring will be important because models have not proven very successful at predicting water quality reliably. Without monitoring trades will not work.
- f. A change in regulatory status will be needed to have a market, even if such changes are beyond EPA's authority.

Dr. Stavins noted that the EEAC would be open to commenting on the EPA implementation guidance when the policy becomes final. He noted that charge questions would need to be constructed to explore carefully what the Agency might do within the existing law and also to identify what changes in the law might allow the Agency to do their job better. Dr. Podar believes that the Agency will do that.

3. THE DRINKING WATER AFFORDABILITY CRITERIA

Briefing on the National-Level Small System Affordability Determinations;

Mr. Ephraim King, EPA OGWDW

Mr. King provided information on the demographics of surface and groundwater systems, noting that for surface water systems, small systems constitute over 80% of systems, but serve only

10% of the 178 million people served by surface water systems. In the case of ground water systems, small systems constitute over 96% of systems, and serve about 38% of the 86 million people served by ground water systems.

Mr. King also discussed the overall process for establishing national primary drinking water regulations, the nature of compliance technologies, variance technologies, variances, and the state role in setting variances.

4. PUBLIC COMMENTS

Dr. Stavins then recognized a number of persons registered to make public comments on the Affordability Criteria. He introduced them in the order that they registered for time to speak.

a. Mr. Jasbinder Singh, Policy, Planning and Evaluation, Inc. Mr. Singh introduced himself and presented information on municipal affordability based on a past study he conducted for the Agency. He noted the differences in cost of drinking water services to communities and discussed a method that he developed for considering affordability. See his notes in Attachment F to these minutes.

b.. Mr. Alan Roberson, representing the American Water Works Association, stated that there had been extensive comment on various drinking water issues in the recent past and that EPA had improved its conduct of benefit-cost analysis and consideration of affordability in general. He noted that as regulations under development come into force, the cumulative affect of their economic impact needs to be considered. He supports some 'out-of-the-box' thinking on the topic, creative ideas, for the future might be the best help that can be given to EPA.

c. Mr. John Trax, representing the National Rural Water Association, addressed his association's concern with the coming drinking water regulations in terms of the ability of poor and small rural communities to implement them. See his notes in Attachment G to these minutes.

d. Mr. Erik Olson, Natural Resources Defense Council. Mr. Olson presented information on his concerns with alternative levels for the criterion. For instance, a lower level would mean many more people would have drinking water that is less clean. He suggested a need for a substantial increase in the level of aid to all communities in need as a means of addressing the situation. See his notes in Attachment H to these minutes.

e. Mr. Stephen Gasteyer, Rural Community Assistance Program, presented information on municipal affordability. His comments noted a concern for small communities' ability to repay loans they receive for infrastructure improvements. Limited expectations of these communities' ability to repay loans might deny them access to funds, notwithstanding the existence of various governmental loan programs. He noted that some part time residents with second homes in some rural communities may make the community income seem artificially high. See his written comments in Attachment I to these notes.

f. At the end of the meeting, Mr. Miller introduced written comments that had only then been provided to the EEAC by Dr. Steven Lamm, President of Consultants in Epidemiology and Occupational Health, Inc. His statement covered his advice on affordability and how it might relate to risk. See his written comments in Attachment J to these notes.

5. COMMITTEE DELIBERATIONS

Dr. Stavins noted that the discussions would be structured in clusters of charge questions, allowing some flexibility to manage the time during the meeting. The discussions are to lead to written advice to the EPA Administrator in response to the charge questions. A telephone conference call will be used to continue the deliberations if they are not completed during the meeting.

a. The Basic Approach

EPA asked the SAB's advice on the Agency's basic approach of comparing average compliance costs for an NPDWR with an expenditure margin, which is derived as the difference between an affordability threshold and an expenditure baseline (Question 1). Added to this, the Committee wished to consider whether the criterion should depend on the size of the risk posed by contaminants at certain levels, and if so, how the size of the risk should be considered.

Various members of the committee offered their reactions to these charge questions.

Dr. Goulder suggested that the question can be approached on several levels. First is the long-run possibility of attaining affordable solutions through consolidation and regionalization. Second is the provision of federal assistance to help make compliance with the rules less onerous. Third is the issue of how after-tax income and health improvement expenditures might be traded off against each other. Fundamentally, this is an equity issue. He suggested that the formula now concentrates on costs which vary substantially across communities. It might be important to also address the horizontal equity issue from the standpoint of the commensurability of net benefits which might require that the 'formula' be adjusted for local factors. Dr. Goulder suggested that efficiency might not get us to an affordability criterion. The spirit of the law makes affordability an equity issue. The problem is that for small systems, there is no opportunity to gain the economics of scale that large drinking water systems experience.

Dr. Hanemann stated that the affordability criterion is but a trigger and that it does not really address what a system should do in regard to a regulation. What should be done should reflect the benefits to be derived from the action. It might be important to have a criterion that triggers easily so a larger number of decisions on exactly what to do in a specific system can be made at a level where the individual characteristics can be appreciated and understood, e.g., at a state or local level. The "SAB arsenic benefits panel" criticized the Agency for not considering affordability at a local level. Building up a "National Affordability Criterion" up from data derived at a more-local level would be an improvement (though as Mr. King pointed out, timing is an issue that prevents EPA from compiling such localized data).

Dr. Kling suggested a chain of logic that began by noting that: 1) affordability is not an economic concept, but it causes one to think of the concept of the ability to pay; 2) economists do think of ability to pay, and willingness to pay is similar to that; 3) net benefits is a local consideration in regard to small system affordability, income is a local issue, risk differs locally with different drinking water systems; and 4) income is relevant in willingness to pay. The appropriate measure would be the mean not the median. Conceptually, some percent of income may tie to net benefits. One might look at what people would be willing to pay for risk reduction. The EPA 2.5% might be a good approximation. Also, a sliding scale of payments for drinking water could be tied to one's income. Admittedly, this is a long range consideration. The issue is actually one of how best to get localized deviations from the national standard.

Dr. Stavins noted that the law, as structured, begins with the premise that all communities should have the same quality of water. It does not achieve this by subsidy, but contemplates an "equity solution" by allowing different qualities of health protection at different locations, based on affordability. Once we do that, our thinking turns to the concept of efficiency – i.e., the act contemplates a different level of quality at different places. That Congress did not give the Agency a firm definition for affordability is not surprising. This is typical of statutes and will be so always.

Dr. Sigman stated that the working of the criterion makes when a rule comes up for consideration very important. Once the margin is used up, then all rules will trigger the criterion and you eventually get to the local consideration of affordability. Mr. King noted that it is not possible to think ahead and predict how other rules in the process will affect the margin and when is not possible, because we do not know where their "values" will end up until all the analyses are done.

Dr. Burtraw suggested that the negative correlation between income and cost in the affordability sense exacerbates the situation. A regional or a local criterion would improve the operational aspects of the criterion. Of course, the act makes affordability a national criterion.

Dr. Helfand agreed with others that the crack in the door that allows one to consider affordability at a level below the national level is the problem. This is consistent with the way economists would think of the issue, because they would not want to clean up to the same degree at all locations. She suggested that at some level, the act seems to contemplate a "public good" in being able to go anywhere and drink the water. Congress seems to push this to a local "public good" with affordability.

LUNCHEON BREAK

After luncheon discussions, Dr. Goulder noted that the Committee members might not be so far apart in one another's thinking. He suggested that a convergence exists in the way we are thinking in terms of understanding that Congress contemplated a national standard that allows some adjustment locally. The Committee favors adjustments based not just on costs alone, rather they believe that benefits should also be considered in some form. The issue is not just one of horizontal equity – e.g., Mr. Singh's figures suggest differences across locales. One might draw a line and

identify which systems get assistance. But at what sacrifice. For this Dr. Goulder suggested that horizontal equity be considered from two viewpoints – relative sacrifice and absolute sacrifice.

Mr. King noted that the criterion is a legislative device to trigger the availability of variances and does not grant the variance itself. That is done by the States who can also exercise a certain amount of enforcement discretion irrespective of the national criteria.

Dr. Stavins noted that the minutes would reflect the discussions and that they would be the basis for further discussions during a telephone conference meeting to be scheduled in the near future. A report would then be written to reflect the advice of the committee on the criteria.

b. Affordability Components

Three charge questions are covered in this part of the discussion:

i. median household income (question 2) asks if the basic approach is retained, should a measure other than median income that captures the impact on more disadvantaged households be used as the basis for the affordability threshold? If so, what alternative measures (e.g., 10th or 25th income percentile, poverty level income) should the Agency consider and why? What would be the likely effect of such alternatives on existing and future national level affordable technology determinations?

Dr. Hanemann noted that large systems have a “life line rate” that provides an initial block of water for qualifying users (low income) at a lesser rate and then increases the rate for successive blocks of water. He was not sure how small systems took care of such things. (Mr. Trax noted that most small systems have a fixed rate for water irrespective of the amount used.) Dr. Hanemann suggested that a percentile lower than the median could be argued for as the basis for a threshold.

Dr. Goulder noted that a case can be made for going below the median; however, how far below would depend on priors that are not available. He further suggested that if we assume some benefit, then if the concern is equity, we could focus on costs. Then as an extension of this we could decide how to bring benefits into the equation. How to deal with cost differences locally is an issue.

Dr. Helfand noted that some sense of the willingness to pay for risk reduction would be important. Also, a sense of the aggregate risk from all water contaminants would be necessary as well. My willingness to pay would be a part of this determination. To deal with variation locally we would look at national funding approaches if we consider equitable water quality as a national good.

Dr. Laity of OMB was recognized by the Chair to make a clarifying statement. He noted that the criterion was directed at availability of variances and was a national level trigger and not directed specifically at the local decision.

Dr. Hanemann noted that the trigger's intent was to deal with hardship cases and that the intent argued for the trigger to be moved, for example, to the 30 or 35th percentile. There is also an interest in this regard for the trigger to be applied when the need is real and to avoid false alarms.

Dr. Kling looked for guidance from other areas where such triggers come into play. Dr. Burtraw mentioned the "poverty level" as one such trigger.

Dr. Burtraw mentioned advice from an earlier SAB Drinking Water Committee report that suggested there is a "raw intuitive appeal" to comparing the criterion with other things. He noted that such expenditures vary with locations. The DWC was further concerned that the 2.5%, or whatever MHI level, would have many persons in the community that were below the median and therefore any percentage would be a proportionately larger burden to them than it would be to persons above the median. Perhaps a median within a community might be better than a median across communities.

Dr. Polasky suggested that water system data could be collected to determine the household income distribution in the system. Then, a rule could specify that a 'variance analysis' could be triggered if it would be determined that a certain percentage of the community was below some trigger level tied to income. Restated, this would have someone look at the ratio of drinking water cost to income for a community. If x% (possibly 25%) of system customers are found to be above this threshold you trigger the analysis.

Dr. Goulder noted that this concept focuses on "relative sacrifice" and we would still want to look at "absolute sacrifice." He further noted that a "burden sharing" concept might be considered. That is, is there a way to soften the burden on communities who have already implemented system changes in the past to recognize that they have already invested in change and have had an impact on their household income.

Dr. Sigman noted that the baseline, i.e., the cost of water bills now are driving the equation. One could just look at incremental cost to make a decision.

Dr. Hanemann noted that standards come out over time and that later standards could be crowded out later. The real problem is that one cannot forecast regulations that are coming in the future.

Dr. Stavins noted Mr. Olson's point suggesting that a misuse of a criterion was possible. Any advice we give should indicate how the criterion should be used and caution against certain types of misuse.

ii. affordability threshold (question 3) asks what alternatives should the Agency consider to 2.5% as the income percentage for the national level affordability threshold and what would be the likely effect of such alternatives on existing and future national level affordable technology determinations? What basis should the Agency use to select from among such alternatives? Should the Agency use costs of other household goods and services or risk

reduction activities as a basis for setting the affordability threshold as was done in the development of the current criteria?

Dr. Kling stated that consideration of the actual value of the threshold brings her back to where she started when discussing the “median” as the basis. How would we know what percent would be better? She has no idea of whether the small systems will get a benefit greater than costs or costs greater than benefits as now reflected in the available information. She also noted a worry that the wrong percent would make it too easy for systems to avoid the national standard. To some degree the establishment of a specific standard seems to force technologies to address the standard to appear.

A number of members asked EPA if the legislation, or even the conference reports, or reports from either chamber, shed additional light on what Congress intended with affordability. (Mr. King said that there were no additional clues).

Dr. Burtraw noted that if the answer is to select a percentage based on comparisons with “similar” goods then the Agency must think of something higher than 2.5% because for half the population served (those below the median) the percentage would be greater than 2.5% of their income.

iii. expenditure baseline (question 4) asks if the Committee believes the Agency should consider other approaches to calculating the national expenditure baseline than those used by the Agency heretofore?

During the discussion on use of the median value in the affordability threshold, the issue of the expenditure baseline was raised.

Dr. Norgaard stated that consideration of a baseline was not needed when evaluating affordability.

Dr. Hanemann noted that the differing impacts is a signal from the pricing system that one place is a more expensive place to live than another.

Dr. Stavins suggested that the arguments seem to go against considering the baseline.

c. Application, Focus, and/or Definitions of Affordability

Two charge questions are covered in this part of the discussion:

i. Ground water vs. Surface Water Criteria (question 5) asks if the Committee believes that separate national level affordability criteria should be developed for ground water and surface water systems?

During the discussion of the median as the appropriate focus for a criterion, the issue of existing regulatory burdens taken on by ground water vs. surface water systems was raised.. Dr.

Stavins asked the Committee to remark on the issue of ground water vs. surface water specific criteria. The point was that many ground water systems have not had to invest substantially in treatment technologies in the past and therefore have not sustained as significant a burden on household income. He asked if the Committee could argue for different criteria for ground water vs. surface water systems. The implication might be that you would trigger at a higher level for ground water than for surface water systems.

Dr. Norgaard suggested that a different criterion for ground water vs. surface water was not needed.

Dr. Hanemann noted that the differing impacts is a signal from the pricing system that one place is a more expensive place to live than another.

The Committee concluded that there should not be a different approach for considering affordability in systems using ground water vs. surface water sources.

ii. Regional vs National Criteria (question 7) asks if there is a need for making affordable technology determinations on a regional rather than a national basis? Does adequate readily available information exist to support such an approach? EPA is still exploring the degree of flexibility afforded by SDWA to make regional determinations, but would appreciate the Committee's advice on whether such determinations are feasible and warranted.

During the discussion of the MHI focus (see 5.b.i of these notes) the Chair asked the members to consider the question of national vs. regional criteria. He first asked Office of Water representatives if SDWA permitted criteria to be set regionally. OW representatives noted that it was allowed but that availability of data to support such an evaluation presents an operational constraint. The more you move away from national criteria to localized criteria the more the available survey data are stretched. In addition, SDWA requires that the determination on the affordability of compliance technologies be made at the time a regulation is set. Variance technologies are also to be listed at the same time. This might argue for obtaining monitoring data prior to establishing a rule so a regional analysis could be conducted.

Mr. Erik Olson, NRDC, was recognized by the Chair to make a clarifying remark. He noted that operationally affordability is not just an "on-off" switch. It also determines what the variance technology is to be. If the criterion is too low there will be no variance technologies. Also, affordability ideas at the state level are taken from EPA. What EPA does will be followed by the states. None will be willing to go out on their own. They won't find variance technologies.

Dr. Stavins made an important point that had just become clear. National criteria are not a requirement of SDWA, rather they are more a product of resource and information limitations. That knowledge brings other options "inside the box," for example, the criterion might be a rule for deciding that technologies are affordable at a different level of aggregation than national. One way to do this would be to allow a system to get a variance if they sustain the burden of proving the non-affordability issue locally.

Dr. Kling favored regional level criteria. Dr. Hanemann noted that the national criteria could be tailored to the income of regions. The Committee's advice could note that there is a need for disaggregation from the national level when the Agency gives its advice.

Dr. Stavins surveyed the Committee regarding the issue of regional vs. national level criteria by asking if the members had any arguments against regional criteria. The members did not provide such reasons and the consensus is for regional criteria.

d. Financial Assistance

One charge question is covered in this part of the discussion:

i. Financial assistance (question 6) asks if the Agency should include an evaluation of the potential availability of financial assistance (e.g., Drinking Water Revolving Fund) in its national level affordability criteria? If so, how could the potential availability of such financial assistance that reduces household burden be taken into consideration?

Dr. Stavins asked the Committee to comment on whether financial assistance should be considered as one addresses affordability, i.e., the availability of variances, to small systems.

Dr. Burtraw suggested that financial assistance should be considered when this decision is made.

Dr. Hanemann suggested that it should not be considered because financial assistance is only 'potentially available:' it is not certain. In addition, the financial assistance that is available to communities is intended to respond to a number of needs, not just situations where a given drinking water standard is not deemed affordable a specific system (and thus a variance -- a lower standard for their system -- might be available). If the question is "should financial assistance be available?," the answer would be an easy, yes. (Mr. King pointed out that even when financial assistance is directed to other uses, its application there frees up money that would have been directed to that need for use on other things, like changes needed to respond to new regulatory requirements.)

Dr. Laity of OMB pointed out that the financial assistance now is only tied to capital improvements and not to operation and maintenance.

A consensus was not reached on this issue during the meeting.

6. ACTION ITEMS

The Chair noted the following action items for completing EEAC action on the "affordability" criterion.

- a. The DFO will draft his notes and send them to the Chair ASAP
- b. The Chair will revise these into a final set of minutes of the meeting

- c. The Chair will extract the main ideas put forth during the deliberations today.
- d. The minutes and Chair's "extractions" will be circulated to the members for information.
- e. A public telephone conference meeting will be held to reach consensus and closure on all charge questions.
- f. Members will be given assignments to draft portions of a report according to the consensus and the background discussions.
- .g. The Chair will compile these into a draft report and circulate that to the EEAC members.
- h. Members will provide comments and concurrences on the draft report
- i. The Chair will revise the report and it will be forwarded to the SAB Executive Committee for review, comment and approval
- j. The report will be delivered to the Administrator after SAB EC approval

7. RECOGNITION OF THE CHAIR

At the close of the meeting, Dr. Albert McGartland, Director, EPA National Center for Environmental Economics, recognized Dr. Stavins, Chair of the Environmental Economics Advisory Committee for his many years of service to the Environmental Protection Agency. Dr. Stavins was a member of the EEAC for nearly six years when he agreed to take on the Chairmanship. He has now been Chair for five years, and during his tenure the Committee has had a major influence on EPA's guidance for the conduct of economic analyses of environmental regulations. The Chair was presented with a facsimile of the cover of the EPA Economic Guidelines as a memento of his service and as an expression of the sincere appreciation of those at the Agency for that service.

3:45 pm ADJOURN

I certify that these minutes are accurate to the best of my knowledge.

/ Signed /

Dr. Robert Stavins
Chair
Environmental Economics Advisory
Committee

/ Signed /

Mr. Thomas Miller
Designated Federal Officer
Environmental Economics Advisory
Committee

Attachments

- A FRN 67(81):20765
- B Agenda
- C Roster
- D Biographical Sketches
- E Sign In Sheets
- F Public Comments: Mr. Singh
- G Public Comments: Mr. Trax
- H Public Comments: Mr. Olson
- I Public Comments: Mr. Gasteyer
- J Public Comments: Dr. Lamm